

In the Claims

Please amend claims 1 and 98, cancel claims 61-70, 80-85, and 88-97 without prejudice, and add claim 111 such that the claims read as follows:

1. (Currently Amended) An effluent gas stream treatment system, comprising:

means for pre-treating ~~the~~ an effluent gas stream, ~~to enhance its character for subsequent oxidation treatment to remove water soluble components;~~

an oxidation unit for oxidizing at least a portion of ~~the~~ oxidizable components of the effluent gas stream to abate such oxidizable components; and

means for post-oxidation treatment ~~of the effluent gas stream to enhance the character of the effluent gas stream for discharge from the treatment system~~ to remove acidic components from the effluent gas stream.

2-70. (Canceled).

71. (Previously Presented) An apparatus for treating an effluent fluid stream from one or more semiconductor manufacturing process tools, comprising:

a pre-treatment unit, downstream from at least one semiconductor manufacturing process tool, arranged to remove water soluble components from the effluent fluid stream;

an oxidizing unit, downstream from the pre-treatment unit, arranged to elevate the temperature of the effluent fluid stream, utilize a hydrogen source to effect destruction of at least a portion of halogen-containing components of the effluent fluid stream and effect oxidation of at least a portion of the oxidizable components of the effluent fluid stream; and

a post-treatment unit, downstream from the oxidizing unit, arranged to remove acidic components from the effluent fluid stream.

72. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein said halogen-containing components contain fluorine.

73. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein said halogen-containing components contain chlorine.

74. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein said halogen-containing components comprise perfluorocarbons.

75. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein the pre-treatment unit is arranged to remove particulates from the effluent fluid stream.

76. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein the post-treatment unit is arranged to remove particulates from the effluent fluid stream.

77. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71 further comprising a quench unit, downstream from the oxidizing unit and upstream from the post-treatment unit, arranged to lower the temperature of the effluent fluid stream.

78. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 77, wherein the quench unit is constructed using a corrosion-resistant alloy.

79. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 71, wherein the oxidation unit is constructed using a high temperature oxidation-resistant alloy.

80-85. (Canceled).

86. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 77 wherein water vapor from the quench unit is recycled back to the oxidizing unit for utilization as a hydrogen source to effect destruction

of at least portion of the halogen-containing components of the effluent fluid stream.

87. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claims 71 wherein water vapor is used as a hydrogen source to effect destruction of at least portion of the halogen-containing components of the effluent fluid stream.

88-97. (Canceled).

98. (Currently Amended) An apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools, comprising:

a first scrubber, downstream from at least one semiconductor manufacturing process tool, arranged to remove water soluble components from the effluent fluid stream;

an oxidizing unit, downstream from the first scrubber; and

a second scrubber, downstream from the oxidizing unit, arranged to remove acidic components from the effluent fluid stream.

99. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 further comprising

a quench unit downstream from the oxidizing unit and upstream from the second scrubber.

100. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the first scrubber comprises a wet spray tower including an inert-gas-assisted atomizing nozzle.

101. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the second scrubber comprises a wet spray tower including a demister mesh packing.

102. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 99 wherein the quench unit comprising an atomizing nozzle.

103. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the second scrubber comprises a wet spray tower arranged to lower the temperature of the effluent fluid stream to below ambient temperature by using an aqueous scrubbing medium of temperature effective therefore.

104. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the oxidizing unit comprises a catalytic oxidizer.

105. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the oxidizing unit comprises a thermal oxidizer.

106. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the oxidizing unit is arranged to mix the effluent fluid stream with an oxidizer medium.

107. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 106 wherein the oxidizer medium is selected from the group consisting of air, oxygen, and other oxygen containing gases.

108. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the semiconductor manufacturing process tools are selected from the group consisting of CVD tools, etch tools, and ion implant tools.

109. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 98 wherein the oxidizing unit is arranged to elevate the temperature of the effluent fluid stream, utilize a hydrogen source to effect destruction of at least portion

of the halogen-containing components of the effluent fluid stream and effect oxidation of at least a portion of the oxidizable components of the effluent fluid stream.

110. (Previously Presented) The apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools of claim 109 wherein water vapor is used as a hydrogen source to effect destruction of at least portion of the halogen-containing components of the effluent fluid stream.

111. (New) An apparatus for treating the effluent fluid stream from one or more semiconductor manufacturing process tools, comprising:

an oxidizing unit, downstream from at least one semiconductor manufacturing process tool, arranged to elevate the temperature of the effluent fluid stream, utilize a hydrogen source to effect destruction of at least a portion of the halogen-containing components of the effluent fluid stream and effect oxidation of at least a portion of the oxidizable components of the effluent fluid stream;

a post-treatment unit, downstream from the oxidizing unit, arranged to remove acidic components from the effluent fluid stream; and,

a quench unit, downstream from the oxidizing unit and upstream from the post-treatment unit, arranged to lower the temperature of the effluent fluid stream, wherein water vapor from the quench unit is recycled back to the

oxidizing unit for utilization as a hydrogen source to effect destruction of at least portion of the halogen-containing components of the effluent fluid stream.